

# Garmin: the world's largest competitor



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Gary and Min started their venture in Lenexa, Kansas with startup capital of four million dollars. Not even a decade after launching Garmin, sales are at 105 million dollars with a profit of 23 million dollars. Just to give you an idea of how quickly the company expanded, by 1999 Garmin had a hold of 50% of the GPS market in North America, has a presence in 100 countries worldwide, and is carried by over 2, 500 independent distributors. Garmin continues to innovate and expand; below we discuss the environment Garmin is battling in, the company's core competencies, and where it stands among competitors in greater detail.

## **External Analysis**

As most people know, Garmin is the world's largest competitor in the market for Global Positioning System (GPS) devices, and particularly in the Personal Navigation Device (PND) market. According to the company, Garmin is a leader in providing “ navigation, communication, information devices and, applications, most of which are enabled by GPS (global positioning system) technology”[1]. Garmin's stated goal in creating these devices is to enrich the lives of their customers, by providing high quality products that create value for consumers[2]. The industry for navigation and communication devices consists of a number of highly competitive firms that, like Garmin, design, create, and distribute GPS devices for a variety of uses. The areas where Garmin specifically creates products for are automobiles, outdoor use, marine vehicles, and aviation[3]. The industry has become extremely populous in recent years due to technological advancements and high demand for GPS devices, but Garmin has remained near the top of the industry throughout this time frame -as of today, Garmin sits sixth among

firms in the scientific and technical instrument industry in terms of total revenue, fifth in terms of market capitalization, and second in terms of net profit margin[4]. Most of these firms follow distinctly similar business processes as well, relying on innovation and vertical integration, making for an even more competitive industry. In order to stay ahead, Garmin has had to pay close attention to the actions of both consumers and competitors.

Despite the presence of so many competitors, Garmin is able to stay at the forefront of the industry due to its capabilities in several key areas which are crucial for success in the industry. These key success factors include establishing market share and brand recognition, investing heavily in research and development and innovation, having a strong, global distribution network, and implementing vertical integration. Successes in these areas are critical for firms competing in the navigation and information industry, and Garmin achieves a level of success in each area.

Market share and brand recognition carries a huge importance for companies like Garmin, particularly in an industry that suffers from overcrowding and very uniform products. Garmin initially created a niche market for itself, distributing quality, cutting-edge navigation products. At the time, top competitors included giants such as Sony and Philips, creating a situation where Garmin had to create a niche for itself if it wanted to compete. Over time, Garmin has grown into an industry leader with a strong reputation for producing great products. According to the company, Garmin owns around 36 percent of the personal navigation device market, making it the first in the North American market and second in the European market, and they are first in both the recreation and aviation markets as well[5]. In order for

companies to compete in such a populous market, one dominated by large, successful companies such as Garmin that distribute highly similar products, they must create some sort of recognition for themselves. Garmin has already done so, creating a brand well-known by most consumers and allowing success to build upon prior success.

Emphasizing research, development and, producing innovative products also grow in importance in such a large, parallel industry. Due to the dynamic nature of the technological and scientific industries, firms must rapidly develop new products or ideas in order to attract new customers or retain old ones. Garmin describes their industry in such a way: “ The market for our products is characterized by rapidly changing technology, evolving industry standards and changes in customer needs. If we fail to introduce new products, or to modify or improve our existing products, in response to changes in technology, industry standards or customer needs, our products could rapidly become less competitive or obsolete[6].” Consumers today will almost always look for the product with the latest and coolest features.

Technology giants such as Apple and Google are proof that those firms that can either constantly improve their existing products or introduce new products will stay ahead of the curve. The market for GPS-driven navigation equipment certainly falls under the same category. Garmin places a heavy emphasis on research and development as a means of constant innovation- in 2009 they spent nearly 240, 000 dollars on R&D, or roughly 8. 1 percent of sales[7]. Other firms in the industry, such as TomTom at around 9 percent of sales, spend comparable amounts[8]. Garmin also currently holds over 1 billion dollars in cash on hand, allowing the company plenty of resources for

investing in R&D[9]. With technology changing at such a rapid pace any firm that fails to fully invest in discovering the next great technological advancement will only fall desperately behind firms such as Garmin and TomTom, or even Google and Apple.

Also, due to the nature of the operations of firms like Garmin and TomTom, it is absolutely necessary for companies to create and maintain strong distribution networks. Garmin and TomTom, and many other firms who distribute PNDs, do not actually operate individual stores that sell the products they make. Instead, they sell the devices through other retailers or through their websites. Selling through third parties can create a lot of functional problems, such as increasing costs and poor customer service, so creating and managing a strong, effective distribution network is an essential activity. Garmin, for instance, uses an extensive network of nearly 3000 dealers in about 100 countries, while relying on regional sales managers and in-house sales staff to provide support[10]. Moreover, many of Garmin's largest dealers are among the largest, most recognized retailers in the world, including Best Buy (which accounts for 13.4 percent of Garmin's revenues), Target, Wal-Mart, Amazon.com, and Costco[11]. They also coordinate with in-country subsidiaries and local dealers around the world to manage their global sales, a task that would be nearly impossible without an established and well-managed distribution network. It is a testament to the importance of strong global connections that Garmin owns a significant share in the European market despite their late entrance into that particular segment. Without a strong distribution network, a firm competing in the industry could not reach the levels of profitability that firms such as Garmin and TomTom

reach-instead, they would be incurring extra costs and losing revenues through inefficient supply chains.

Furthermore, due to the capital-intensive nature of the business and the importance of R&D, a certain amount of vertical integration is expected. A huge part of the industry, as we have seen, is the ability to design and produce new, innovative products. Such endeavors require large amounts of time and money commitments, making it much more logical for firms in the industry to take the product all the way through the production phase, from developing the idea to manufacturing the product. The industry leaders such as Garmin operate their own design and manufacturing facilities-in fact, Garmin believes its manufacturing capabilities to be one of the company's core competencies[12]. Vertical integration allows Garmin, and other firms, to solve common problems in the electrical industry, such as being quicker to market with products, streamlining the design and process functions, and minimizing logistical issues[13]. The efficiency and effectiveness of vertical integration makes it a common practice among firms in electronic fields, and any firm wishing to compete against leaders such as Garmin would most likely need to employ similar processes.

Undoubtedly, any firm wishing to compete in the market for GPS-powered navigational and information equipment must excel in the key areas above. However, such practices do not guarantee success in such a complex industry. There are many factors that affect the profitability of firms such as Garmin, and one can rate the industry's attractiveness by considering the five forces model: the threat of new entrants, the threat of substitutes, the

power of suppliers, the power of buyers, and the competitiveness of the industry.

A significant risk of new entrants into the market exists due to the low barriers of entry that exist in the industry. One such low barrier to entry involves the extensive growth of the technology PND devices require. GPS technology, like most every other technology, is now easy to copy and implement due to its widespread use, and since the satellites GPS relies on are available for civilian use, it is not exactly difficult to establish a GPS system for use in products. When you factor in the decreasing prices of necessary components such as semiconductors and microprocessors, it becomes clear that the technology for PNDs represents a very small obstacle for new firms. The ease of obtaining the technology has lead to the current trend of smartphones, specifically the Apple iPhone and the phones Google sponsors, containing GPS technology[14]. One must also consider the channels of distribution to be a very low entry barrier for potential entrants, specifically firms that are already large and successful. As previously discussed, Garmin (and most other PND makers) sells through third party retailers such as Best Buy and Wal-Mart; unfortunately, this channel is easily accessible by top electronic companies such as Sony and Samsung. More than likely such large companies already own connections with the large retail chains, and the vast resources of electronic giants such as Sony offer them a strong advantage in dominating the retail channel. Google and Apple both own similar advantages. The low entry barriers are leading to an influx of companies entering the industry, and, most ominously for Garmin, new

competitors such as Google are able to offer the same technology with features Garmin cannot replicate.

The threat of substitutes in the navigation industry does not represent such an apparent problem per se; since all PND products use basically the same GPS technology, no real substitute exists. However, there are now substitutes to the PNDs companies like Garmin sell. Most notable, of course, are the smartphones with GPS capabilities. These phones offer a huge problem in that no person with such a phone would need to own a PND due to the phones equal capabilities. Another substitute is the current practice of car companies including built-in GPS systems into their vehicles. Garmin is managing to limit this threat by entering the market itself-they currently have contracts for built-in GPS's in 15 Dodge/Chrysler/Jeep vehicles[15]. Still, the company considers the in-dash vehicle segment, along with the phone segment, to be their biggest threats going forward.

In such a competitive industry, and with all devices requiring vital components such as semiconductors and LCD screens, suppliers obviously own a decent amount of power[16]. Suppliers of these absolutely crucial components are, in effect, selling to everyone in the industry, creating a substantial amount of leverage for the suppliers. Garmin relies on these components, and so shortages or rising costs are devastating to the business[17]. Garmin is, however, able to slightly circumvent this issue by having sole source providers for some key components[18]. Even so, supplier power represents a significant issue in the industry.



Even more alarming is the power of buyers in the industry. Prices for PNDs in the automobile market have been falling rapidly over the past several years due to the number of quality products the market offers[19]. As with any competitive industry, it is difficult to charge price premiums when products are virtually the same in terms of functional use, and firms are then forced to compete on price. Buyers are able to shop around for the best prices, and are more willing to choose a product because of auxiliary features such as appearance and ease of use. Garmin does own a distinct advantage in their other markets though, as prices in the aviation, outdoor/fitness, and marine markets are rising due to advancements in these markets over competition. However, the majority of Garmin's sales still come from the automobile segment, making the power of buyers a very real threat.

Just how competitive is the PND industry? The list of Garmin's competitors is quite extensive. The threat from Google, Apple, and other electronics companies such as Sony, Samsung, and Motorola has been well documented. TomTom remains the biggest threat in the automotive segment, and the two companies are currently waging a battle for world domination of the PND market (Garmin currently leads in the US market, while TomTom leads the European market). MiTAC and Navigon AG are also strong competitors in the automotive market[20]. MiTAC is also a competitor in the outdoor segment (through subsidiary Magellan) along with Lowrance and Delorme, while Nike and Timex Corp. represent threats in the fitness area[21]. Raymarine Ltd., Lowrance, and Furuno are the biggest competitors in the marine segment[22]. Finally, competition in the crowded aviation

industry comes from Honeywell, Avidyne Corp., L-3 Avionics Systems, and Rockwell Collins, Inc., among others[23].

Judging by the five forces model, the PND industry appears to be a very unattractive industry. The threat of new entrants, the power of buyers, and the competitiveness of the industry are all very high, while the threat of substitutes and the power of suppliers are at least moderately high. Garmin remains profitable due to its achievements in the key success factors of the industry, but those factors are not easily replicable by incoming firms. Most importantly, overcoming the market share advantage Garmin, TomTom, and others own seems nearly impossible. Even if one is able to penetrate the market, the strong competitive nature of the industry is sure to keep margins razor thin and profits very low. Overall, the PND industry looks like an overly risky environment for any firm.

However, that does not mean Garmin can no longer be profitable. Garmin has built a highly successful business model, and despite recent struggles, they should be able to rebound. There are several strategies they can pursue to combat the new industry issues they face. For one, they can shift some of their focus to their other product segments. Right now, Garmin's main threat is competition in their automotive segment from other PND producers and smartphones; consequently, it may be beneficial to place greater emphasis on the marine, outdoor, and aviation segments that may be more profitable anyway. Garmin can attempt to penetrate these markets even more, entering into new agreements with specialty retailers for the marine and outdoor segments and airlines for the aviation segment. Increasing R&D ventures in the other segments might also give Garmin a new competitive

advantage in those fields. Since prices have been increasing in these areas, Garmin may be able to substantially increase revenue by renewing focus in other segments. Overall, though, Garmin may need to do very little else. Garmin has already introduced their version of the smartphone to compete with Google and Apple, and there is no doubt that the poor economy has played a role in Garmin's recent downturn. A recent study by Forrester Research analyzing the PND market found that, although companies like Garmin have suffered from competition from smartphones and price cuts, the Garmin should be fine for the foreseeable future-Charles Golvin, the author of the study, says, " I think Garmin and TomTom will be successful going forward because they're innovating and differentiating, and they've got the software and skills and knowledge with maps that the phone makers don't[24]." In other words, it may be a case where Garmin needs to just trust in their successful business model and continue to produce high-quality devices. As the economy improves, and the devices continue to improve, sales will eventually rise.

## **Internal Analysis**

" Garmin's mission is to enrich the lives of its customers, suppliers, distributors, employees and stockholders by designing, manufacturing and selling navigation and communication products that provide superior quality, safety and operational features, lower cost of manufacturing and ownership, and sufficient profits to support desired company growth."[25]

Garmin follows a first mover, differentiation strategy. Through heavy investment in research and development they are able to develop new products that users perceive as more valuable and are willing to pay a

premium for. The first mover aspect is most easily observed in their aviation division where they have received numerous awards as well as FAA certifications for being the first to market with new and innovative products. A recent review of recreational GPS receivers revealed 38 of the top 50 receivers[26]were Garmin products. With the Oregon 400t coming in at number one, and products from the Rino, GPSMap, and eTrex product lines all ranking in the top 10. This speaks for itself that the company has been able to define their products as superior. “ We have 36% of the PND market share, are number one in Aviation and Recreation, and number two in the marine division”.[27]

Garmin has been able to develop a high quality product while still striking a balance of costs, with their products costing only slightly more than their competitors. They have been able to achieve this in two ways, heavy investment in R&D and acquisitions that have vertically integrated value chain operations. In 2009 alone the total expenditures on R&D totaled \$238 million or 8% of total revenue, up from 6% of total revenue in 2008[28]. The fruit of this labor is reflected in the ownership of more than 400 patents as well as 250 trademarks. This has also allowed the firm to not only be the first to market with new products, but also be able to design manufacturing processes that allows the company to “ adapt and be dynamic”[29]. Garmin uses multi-disciplinary teams including industrial designers, various engineers as well members from manufacturing operations to develop products allowing them to quickly move from concept to manufacturing. The company has also used a series of acquisitions to vertically integrate itself creating a supply chain that has given it a competitive advantage. The

company believes manufacturing operation in Shijr, Jhongli and LinKou, Taiwan, Salem, Oregon as well as Olathe is one of its Core Competencies[30]. Vertical integration combined with the engineering methods described above has allowed for reduced time to market, design and process optimization and logistical agility. Logistical agility is one area where vertical integration has really given Garmin an advantage. By operating its own manufacturing facilities, Garmin is able to re-engineer products when they experience component shortages. This is an advantage over competitors because manufactures in the electronics industry typically require long lead times.[31]Garmin has also used strategic alliances to enter new markets. When they began development of the nüvifone Garmin partnered with ASUSTek Computer Inc. to “ design, manufacture and distribute co-branded location-centric mobile phones”. [32]The business model was subsequently remodeled, stating that no new Garmin-ASUS phones will be developed, and Garmin will expand its own, internal development of mobile phones.[33]This failure further reinforces Garmin’s vertical integration strategy that has given them an advantage in the past.

A SWOT analysis performed by Datamonitor in December of 2009 revealed the following Strengths and Weaknesses: “ Robust inorganic growth, Strong product innovation, and Intellectual property”. [34]During 2008 Garmin made several acquisitions strengthening its presence in the European market.

Another asset Garmin possesses is their relationship with auto manufacturers. Garmin currently has contracts to install Garmin devices with Hyundai, Suzuki, Chrysler, Ford, BMW, MINI, Citroen as well as motorcycle manufacturer Harley Davidson. A challenge Garmin is facing the rapid

growth they experienced leading up to the weak economic climate experienced in 2009. “ We grew very rapidly through the late 2000’s and when we finally got fully staffed in 2009, poor economic conditions hit. Developing management skills is one problem we face.”[35]Other weaknesses included overdependence on the North American market, dependence on sole suppliers, and declining margins.[36]It is also very important to discuss the potential for a decline in demand for the automotive products. Almost 70% of 2009 sales were from the automotive/portable segment. It is becoming more and more common for consumers to use navigation technology built into smart phones they already own. It is our recommendation that Garmin leverage its existing assets to continue to be successful. We do feel it is wise to try and enter into the smart phone segment, however, it is already saturated and carving out a niche would be difficult. Manufacturers such as Apple, Motorola, and BlackBerry control the smart phone market and offer an opportunity for Garmin. While Garmin already offers an app for BlackBerry, we feel that licensing Garmin’s technology to other existing manufactures could create more value for the company. By developing apps for other platforms such as the iPhone, Android and Windows 7, Garmin could capture more of the phone segment, while keeping in-line with their current strategy of primarily internal development. Charging a monthly fee for use of the app would also help shore up the declining margins by generating a recurring revenue stream. A timeline should be set to terminate the venture should it turn out to be unsuccessful with specifics determined on a case by case basis. The key to success in developing a smart phone that would compete directly with Apple, Motorola and the like would be to develop the phone completely in-house

and continue the legacy of high quality, innovative products. The joint venture with ASUSTek clearly did not work, and historically Garmin has had the most success with products they engineer themselves. The major risks are the potential high costs of developing the technology, however one of Garmin's core competencies is their ability to integrate the user interface and the software.[37] This provides them the ability to develop a product that will differentiate itself from current products and open the company up to a new product line. Garmin should also continue its efforts to vertically integrate. While they already own their own engineering and manufacturing operations, and also a large part of their distribution system, continued forward and backward integration could further shorten the time to market for the highly dynamic electronics industry. Further backward integration into the manufacturing of more of the parts would negate the need for re-engineering of existing products when there are shortages by easily being able to obtain the data to more accurately forecast demand, streamlining the entire manufacturing process. The major downside is the heavy investment in equipment to begin manufacturing more of the components; however, with no debt on the balance sheet, it would be rather inexpensive to finance such a venture. Further forward integration would also benefit Garmin by allowing them to capture more of the profits from the sale of their merchandise by once again leveraging their existing assets such as their ISO 9001 certification. A fully integrated distribution system would further decrease time to market, the potential for stock-outs and also increase the flow of detailed information about demand conditions to all aspects of the value chain allowing Garmin to continue to adapt and be dynamic. We believe these recommendations are consistent with Garmin's mission,

broadening its product offering, delivering a superior product and increasing share and stakeholder value.

## **Competition Overview**

Garmin has three top competitors and they are MiTAC International Corporation, TomTom N. V., and Google. Each competitor has unique aspects different from Garmin that allow them to be successful. MiTAC owns several different GPS companies that are competing to steal market share away from Garmin. TomTom has the greatest market share in Europe and is competing head-to-head with Garmin for world-wide share. Google owns the rights to a wide variety of maps allowing it to have huge leverage in the purchasing of mapping rights. Each of these companies has the opportunity to over-take Garmin as the United States market leader in GPS devices.

MiTAC is the maker of Mio GPS, Navman GPS, and Magellan GPS. Mio is a subsidiary of MiTAC International established in 2002 that develops products in the Personal Navigation Devices (PND), GPS TV, GPS phone, and Mobile Internet Devices (MID) markets[38]. Mio claims to be a Brand focused on customer needs who are a great user-focused provider of great customer experiences with the tagline “ Explore More”. They believe that mobile business and communications will be a great part of life in the future and try creating products that adhere to that lifestyle. Navman GPS provide PNDs similar to Garmin and also are a major seller of marine GPS. Navman’s advantage over Garmin is in the marine market segment rather than the PND market. Navman has a strong fan base, but has a low market share compared to its competitor Garmin. Magellan offers GPS products for hand-held outdoor devices and in-car navigation. It was purchased by MiTAC in

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2009 and has been ranked by many as one of the top manufacturers of GPS devices[39]. Magellan's most unique attribute compared to Garmin is that it has the ability to select up to 20 destinations at once allowing the user to select the order in which to arrive at each destination. This feature is good for long, cross-country trips that include many pit stops along the way.

Another difference between Magellan and Garmin is that Magellan devices generally have a larger screen size than the opposing Garmin products. One product, the Magellan RoadMate 1412 has a 4.3 inch-wide screen whereas the comparable Garmin nuvi 360 is only 3.5 inches[40]. A larger size could make the routes easier to read, but it may not be preferred due to taking up too much space.

TomTom is a top manufacturer of GPS devices in competition with Garmin. TomTom is the European leader in the GPS market while Garmin is the leader in the United States. TomTom mostly competes with Garmin